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1615

Atty. Dkt. No. 065691-0452

**THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Didier HOARAU et al.  
Title: AMPHIPHILIC HEPARIN DERIVATIVE  
FORMED BY COUPLING A HEPARIN  
WITH A BILE ACID  
Appl. No.: 10/582,989  
International Filing Date: 12/17/2004  
371(c) Date:  
Examiner: Unassigned  
Art Unit: 1615  
Conf. No.: 9218

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §1.56**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

**TIMING OF THE DISCLOSURE**

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

**RELEVANCE OF EACH DOCUMENT**

Document B1 corresponds to foreign language Document B8.

Document B3 corresponds to foreign language Document B7.

English abstracts are also provided for each foreign language reference.

The absence of full English translations does not relieve the PTO from its duty to consider the submitted foreign language documents (37 CFR §1.98 and MPEP §609).

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Although Applicant believes that no fee is required for this Request, the Commissioner is hereby authorized to charge any additional fees which may be required for this Request to Deposit Account No. 19-0741.

Respectfully submitted,

Date

March 12, 2007

By

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<div style="border: 2px solid black; border-radius: 50%; padding: 10px; display: inline-block; text-align: center;"> <b>PTO</b>  <b>INFORMATION DISCLOSURE</b>  <b>STATEMENT BY APPLICANT</b>  <b>MAR 12 2007</b>  <b>MAR 12 2007</b> </div> <p>Substitute for form 1449/PTO</p> <p>Date Submitted: _____</p> <p>(use as many sheets as necessary)</p> <p>Sheet _____ of 2</p>	<p style="text-align: center;"><b>Complete if Known</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Application Number</td> <td>10/582,989</td> </tr> <tr> <td>Filing Date</td> <td>12/17/2004</td> </tr> <tr> <td>First Named Inventor</td> <td>Didier HOARAU</td> </tr> <tr> <td>Art Unit</td> <td>1615</td> </tr> <tr> <td>Examiner Name</td> <td>Unassigned</td> </tr> <tr> <td>Attorney Docket Number</td> <td>065691-0452</td> </tr> </table>	Application Number	10/582,989	Filing Date	12/17/2004	First Named Inventor	Didier HOARAU	Art Unit	1615	Examiner Name	Unassigned	Attorney Docket Number	065691-0452
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U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	B1	2002/0198373 A1	12/26/2002	Uchegbu, Ujeoma Florence	
	B2	4,997,819	03/05/1991	Yamaguchi et al.	
	B3	5,817,333	10/06/1998	Kagayama et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
	B4	JP 58-49311 A	03/23/1983	Eisai Co. Ltd.		A
	B5	JP 61-268628 A	11/28/1986	Junzo et al.		A
	B6	JP 70-97333 A	04/11/1995	Takeda Chemical Ind. Ltd.		A
	B7	WO 93/08802 A1	05/13/1993	Fujisawa Pharmaceutical Co., Ltd.		A
	B8	WO 98/42755 A1	10/01/1998	University of Strathclyde		

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	B9	Akiyoshi et al., "Self-Aggregates of Hydrophobized Polysaccharides in Water, Formation and Characteristics of Nanoparticles," Macromolecules, 1993, 26, 3062-3068.	
	B10	Barthe et al., "Gastrointestinal absorption of drugs: methods and studies," Fundam. Clin. Pharmacol., 1999, 13, 154-168.	
	B11	Barthe et al., "An improved everted gut sac as a simple and accurate technique to measure paracellular transport across the small intestine," European Journal of Drug Metabolism and Pharmacokinetics, 1998, 23, 313-323.	
	B12	Desai et al., "Gastrointestinal Uptake of Biodegradable Microparticles: Effect of Particle Size," Pharmaceutical Research, 1996, 13(12), 1838-1845.	
	B13	Florence, Alexander T., "The Oral Absorption of Micro- and Nanoparticulates: Neither Exceptional Nor Unusual," Pharmaceutical Research, 1997, 14(3), 259-266.	

Examiner Signature	Date Considered
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Substitute for form 1449/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> Date Submitted: <u>MAR 12 2007</u> (use as many sheets as necessary)		<b>Complete if Known</b>	
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**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	B14	Inoue et al., "Selective N-desulfation of heparin with dimethyl sulfoxide containing water or methanol," Carbohydrate Research, 1976, 46, 87-95.	
	B15	Larhed et al., "Diffusion of Drugs in Native and Purified Gastrointestinal Mucus," Journal of Pharmaceutical Sciences, June 1997, 86(6), 660-665.	
	B16	Nagasawa et al., "Solvolytic desulfation of 2-deoxy-2-sulfoamino-D-glucose and D-glucose 6-sulfate," Carbohydrate Research, 1974, 36, 265-271.	
	B17	Nagasawa et al., "Solvolytic desulfation of glycosaminoglycuronan sulfates with dimethyl sulfoxide containing water or methanol," Carbohydrate Research, 1977, 58, 47-55.	
	B18	O'Hagan, D.T., "The intestinal uptake of particles and the implications for drug and antigen delivery," J. Anat., 1996, 189, 477-482.	
	B19	Park et al., "Bioadhesive polymers as platforms for oral-controlled drug delivery: method to study bioadhesion," International Journal of Pharmaceutics, 1984, 19, 107-127.	
	B20	Ponchel et al., "Mucoadhesion of colloidal particulate systems in the gastro-intestinal tract," European Journal of Pharmaceutics and Biopharmaceutics, 1997, 44, 25-31.	
	B21	Snyder et al., "An Improved 2,4,6-Trinitrobenzenesulfonic Acid Method for the Determination of Amines," Analytical Biochemistry, 1975, 64, 284-288.	

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